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INFLATION TARGETING AND ITS DISCONTENTS: THE CASE OF POLAND*

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The paper provides a general evaluation of inflation targeting in Poland with some reference to challenges faced by major central banks. First, it argues that inflation targeting has proved to be relatively successful in Poland and attributes this success to a bias towards the aggressive mitigation of inflationary risks, whenever they have arisen. Second, it briefly explains why the National Bank of Poland does not need to search for an alternative to inflation targeting. Then, it presents the negative aspects of the price level targeting and nominal GDP targeting. Third, it refers to the post-EU accession experience of Poland as being supportive for the "leaning against the wind" approach to monetary policy conducting. Fourth, it argues that such an approach is supported by evidence on the effects of the crisis' outburst and aggressive interest rate cuts on trust in central banks. Fifth, it indicates the determinants of slow post-crisis restructuring and persistently high uncertainty as desired priorities in the research agenda in central banks.

Keywords: inflation targeting, financial stability, zero lower bound, restructuring, uncertainty

JEL classification indices: E31, E43, E44, E52

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1. INTRODUCTION

In 2009, the global economy contracted for the first time since the end of the Second World War. Its subsequent recovery has been sluggish by historical standards. Still worse, in many countries the recovery has also been fragile. This poor performance was preceded by two decades of considerable decline in output volatility, a period dubbed "the Great Moderation". This stark contrast between the two periods in terms of macroeconomic stability raises a natural question of whether (or not) to introduce any changes to monetary policy. Based on this experience, many researchers (e.g. Bini Smaghi 2013; Whelan 2013) formulate highly critical views on hitherto monetary policy, especially inflation targeting.[1] While some conclusions regarding monetary policy may be of the general nature, in our opinion, it is necessary to assess the effectiveness of monetary policy on the country level, rather than to form an overall assessment. We address this question with respect to Poland. While publications such as Polański (2000), Horská (2002), and Łyziak (2005) do assess inflation targeting in Poland, they were all published before the outburst of the 2007 financial crisis. We update this assessment with post-crisis conclusions using a similar evaluation methodology.

The reminder of the paper is organised as follows. Section 2 presents a general assessment of inflation targeting in Poland. Section 3 considers possible alternatives to inflation targeting. Section 4 analyses the role of monetary policy in ensuring financial stability. Section 5 raises some issues regarding monetary policy communication, while Section 6 outlines challenges to the research agenda in central banks. Section 7 concludes.

2. GENERAL ASSESSMENT OF INFLATION TARGETING IN POLAND

Inflation targeting (IT) in Poland was officially adopted in 1998, i.e. relatively early in comparison with the majority of other emerging economies. It was implemented after several years of gradual disinflation, when inflation reached 10% and remained at that level. Unlike in many other emerging economies, a free float, a necessary element of that strategy, was not introduced under market pressure. Poland is a rare example of a smooth transition from peg to free float. Interestingly, the National Bank of Poland (NBP) had been discouraged from the adoption of

[1] Bini Smaghi (2013) neatly summarises his views in the following statement: "inflation targeting has not worked, it has not prevented the financial crisis. It is not providing an efficient monetary-policy strategy to get the economy out from the crisis." We are grateful to the anonymous referee for drawing our attention to this particular quotation.

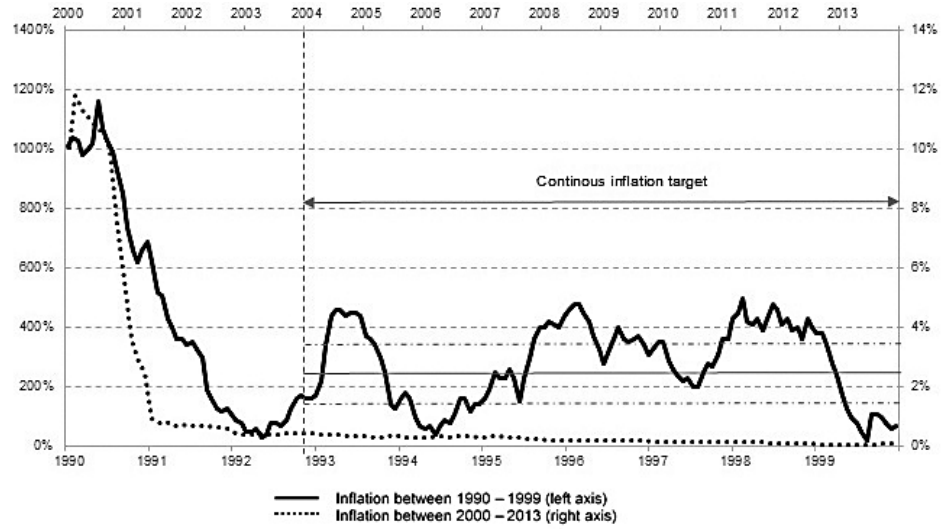

Figure 1. Annual CPI inflation in Poland (%, 1990–2013)

Source: Central Statistical Office (CSO), NBP.

IT, especially by international financial institutions (e.g. Christoffersen – Wescott 1998). According to the IMF (1999), it was too early for Poland to adopt it, as the relationship between policy-determined interest rates, monetary aggregates, and inflation was not yet clear.

In spite of the number of concerns raised by those institutions, all in all IT in Poland has proved to be relatively successful. It facilitated reducing inflation from moderate to low and allowed maintaining price stability thereafter *(Figure 1)*. Before 2004, new inflation targets were set every year. Since the introduction of a continuous inflation target, set at 2.5% in 2004, inflation deviations from the target have been on average moderate relative to other countries and the volatility of both inflation and aggregate demand as well as the variability of nominal interest rates have both been low *(Figure 2)*.

IT was not always successful. As the IMF (2002) pointed out, Poland, as well as its peers, demonstrated a high rate of missing inflation targets, particularly in the early 2000s *(Table 1)*. These misses, were caused, among other factors, by technical shortcomings of design, i.e. narrow bands, relatively short time policy horizons, and the volatility of the targeted inflation. It is worth also mentioning that monetary policy considered excessively tight was blamed for having contributed to a sharp increase in unemployment at the beginning of the 2000s (e.g. Kwiatkowski et al. 2002; Ciżkowicz – Rzońca 2003 for a contrary view).

Nevertheless, we note that short-term costs related to monetary policy decisions are unavoidable due to the conditions (uncertainty) in which such decisions are taken (e.g. Issing 2002). This uncertainty is particularly high in the case of countries undergoing substantial transformations. Despite these costs, with the benefit of long-term hindsight, and compared to other countries, Polish experience with IT may be assessed as successful.

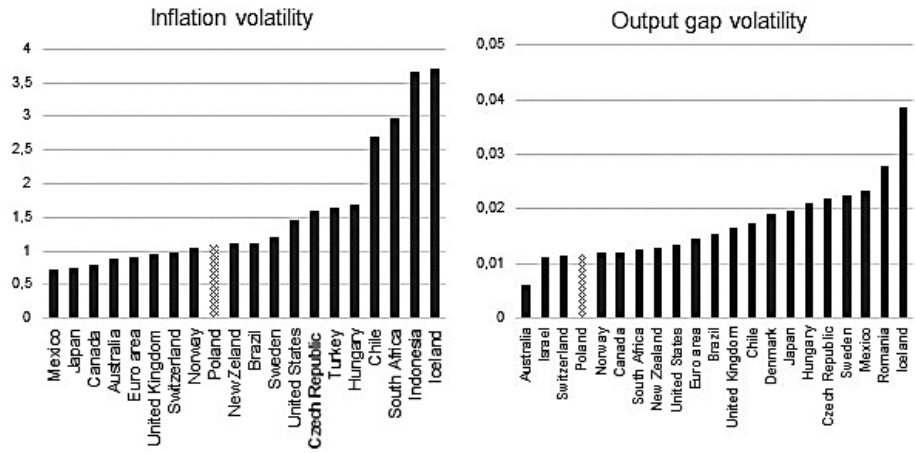

Figure 2. Central banks' performance in terms of inflation and output gap volatility

Source: CSOs, NBP calculations.

Table 1. Inflation targets and inflation in Poland (%, 1999–2013)

Year	Target	Actual	Year	Target	Actual
1999	6.4–7.8	9.8	2007	1.5–3.5	*2.5*
2000	5.4–6.8	8.5	2008	1.5–3.5	4.2
2001	6–8	3.6	2009	1.5–3.5	*3.5*
2002	4–6	0.8	2010	1.5–3.5	*2.6*
2003	2–4	1.7	2011	1.5–3.5	4.3
2004	1.5–3.5	*3.5*	2012	1.5–3.5	3.7
2005	1.5–3.5	*2.1*	2013	1.5–3.5	0.9
2006	1.5–3.5	1.0	2013	1.5–3.5	0.0

Source: CSO.

Note: Since 2004, the inflation target is continuous and amounts to 2.5 +/- percentage points. End of period consumer prices until 2003 and average consumer prices thereafter. Italics denote the years when targets were reached.

Our hypothesis is that the reason for the success has been a bias towards a tighter policy to mitigate inflationary risks whenever they arise. This was particularly visible at the early stages of IT. The asymmetric approach to upside and downside risk, respectively, has been the opposite of the approach applied in practice by at least some central banks in advanced economies. With inflation expectations well anchored, the central banks reacted aggressively whenever a downside risk to aggregate demand occurred, and appeared to be much more comfortable with upside risk to aggregate demand (e.g. Taylor 2009.)

3. ALTERNATIVES TO INFLATION TARGETING

Zero lower bound (ZLB), which has constrained interest rate policy in major advanced economies, has revived a debate on alternatives to IT. Reviewing all arguments used in this debate is far beyond the scope of this section. Let us simply raise some problems with the monetary policy conducted in Poland (as well as in the eurozone and in the United States).

In theory, both price *level targeting* (PLT) and *nominal GDP targeting* are better suited to cope with the ZLB, provided that inflation is below the target. However, in the case of Poland, the risk of the ZLB becoming a binding constraint is negligible, as long as potential output grows relatively fast *(Table 2)* and the financial sector remains healthy *(Table 3)*. Thus, natural interest rate is comfortably high and unlikely to fall into risky territory. For example, Brzoza-Brzezina (2006) concludes that the natural interest rate for Poland in the period of 1998–2004 averaged between 4.6% and 5.0%. Despite the above fact, interest rates in Poland were reduced to 2%. This is the limit below which it is customary to view interest rates as close to zero. Historically, this limit has not been breached frequently. As reported in Homer – Sylla (2005), in the 20th century, interest rates were maintained close to zero primarily after the Great Depression and under the conditions of war economy (as well as the transformation away from war economy). Outside of the US, interest rates were held close to zero in Switzerland in the period of 1937–1956 (as well as of 1973–1978 and 1996–1999), in France in 1941–1946, in New Zealand in 1941–1953 and in Canada in 1944–1950. In the remaining countries, interest rates were not lowered below 2% in the 20th century (in most cases, the lower limit was higher than 2%).

It is also worth noting that if PLT had been introduced in Poland instead of fully-fledged IT that would have implied a difference in monetary conditions in comparison to actual ones only after the outburst of the global financial crisis *(Figure 3)*. In our opinion, policy tightening required to offset the effects of both negative supply shocks (i.e. of sharp increases in energy and food prices) and the

Table 2. Potential GDP volume (percentage change on preceding year, 2000–2016)

	5-year averages						Autumn 2014 forecast			Spring 2014 forecast	
	2000–2004	2005–2009	2010	2011	2012	2013	2014	2015	2016	2014	2015
Poland	4.0	3.7	4.1	4.2	3.4	3.0	2.9	2.9	3.0	3.2	3.4
Estonia	5.5	3.8	–0.4	1.3	1.6	2.1	2.5	2.7	2.7	2.5	2.8
Latvia	6.6	5.3	–2.0	–0.9	0.4	1.6	2.1	2.6	3.2	2.3	2.9
Lithuania	6.0	5.0	–0.1	0.7	1.1	2.3	2.5	3.0	3.3	3.1	3.7
Slovakia	3.8	5.2	3.7	3.8	2.9	.24	2.5	2.6	2.8	2.4	2.5
Czech Rep.	2.8	3.8	1.6	1.5	0.5	0.5	1.4	1.4	1.8	1.1	1.3
Eurozone	2.1	1.5	0.6	0.7	0.3	0.4	0.6	0.6	0.7	0.6	0.8

Source: European Economic Forecast Autumn 2014 (European Economy 7/2014).

Table 3. Financial soundness indicators Poland *vs*. the eurozone (%, 2007–2008)

Country–Region	Indicator name	2007	2008	2009	2010	2011	2012	2013
Eurozone	Bank nonperforming loans to total gross loans	2.0	2.6	4.7	5.3	5.8	6.4	6.4
Poland		5.2	2.8	4.3	4.9	4.7	5.2	5.0
Eurozone	Bank capital to assets ratio	6.6	6.1	6.4	6.0	5.4	5.8	6.9
Poland		8.0	7.5	8.1	8.2	7.8	8.7	9.0

Source: World Bank World Development Indicators.

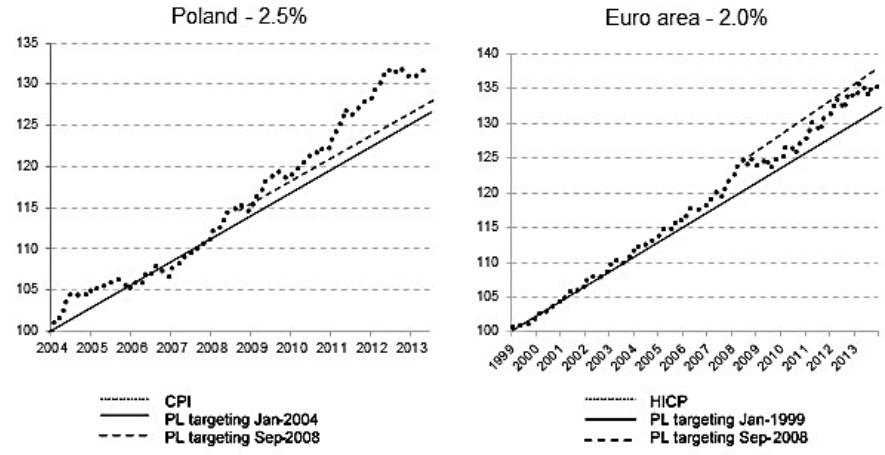

Figure 3. Price level targeting in Poland and the eurozone. Price level compared to the cumulated inflation target

Source: CSOs, Eurostat, NBP calculations.

considerable depreciation of Polish currency on the price level would have been a worse response to the crisis than the monetary policy loosening that actually took place in Poland.

In the eurozone, PLT adopted together with the euro would have meant tighter monetary conditions. We believe that such conditions (if feasible, taking into account the monetary policy stance in the United States and capital mobility) would have decelerated the accumulation of imbalances in some eurozone periphery economies, notably in Ireland and Spain. Yet, if it had been introduced in 2008, it would have required a more aggressive monetary loosening, i.e. more unconventional monetary policy measures. Such a loosening would certainly have come at a cost. The risks created by unconventional monetary policy measures are analysed in depth e.g. by Borio (2012), Ciżkowicz – Rzońca (2014), Hannoun (2012), Rajan (2013), and White (2012).

As far as nominal GDP targeting is concerned, it appears unfeasible when taking into account both frequent and large revisions of nominal GDP. In recent years, these revisions were usually larger in the eurozone and the United States than in Poland *(Figure 4)*. Nominal GDP could hardly serve as nominal anchor in either of these economies.

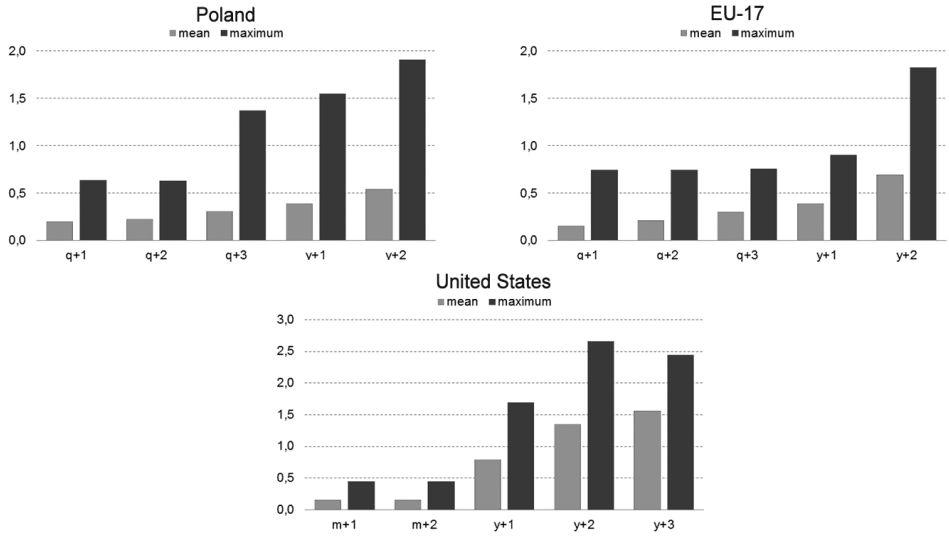

Figure 4. Nominal GDP targeting. Difference between the first estimate of quarterly nominal GDP and the following estimates (2007Q1–2011Q2) (absolute values)

Source: Eurostat, NBP calculations.

4. APPROACH TO FINANCIAL STABILITY

We believe that central banks should lean against the wind. This is the best way to avoid ugly deflations, which so many central bankers have been afraid of. So far, they have occurred only after financial crises (more on this, see, e.g. Bordo – Filardo 2005.)

One may agree that interest rate is a blunt instrument to deal with financial stability. However, over the period of financial imbalances' accumulation, when the substitutability of various assets and various liabilities increases, there is hardly any instrument which could be effectively used in a targeted way. One may look at this problem from a political economy perspective. If there was no monetary policy reaction to excessive credit growth, the macroprudential policy would have to be tightened. Yet, a strong macroprudential response when monetary authority hesitates to respond decisively seems hardly plausible.

Let us refer once again to the Polish experience. After the EU accession, Poland was considered a growth laggard among the New Member States (NMS) until the outburst of the global financial crisis *(Figure 5)*. The relatively poor growth performance of Poland in 2004–2008 was caused partly by sharp monetary policy tightening, which contributed to the interruption of the post-EU accession boom. The tightening was perceived as a mistake by some international institutions, e.g. the IMF, who noted that its effects would be delayed and that a higher inflation target would better accommodate the Balassa–Samuelson effect

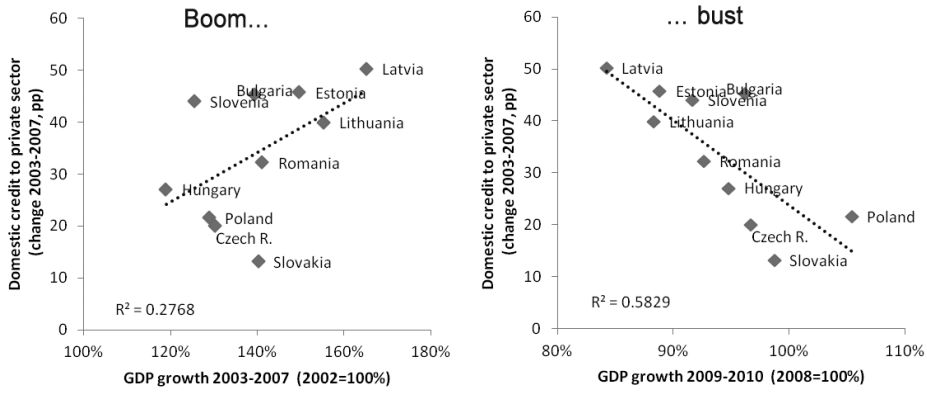

Figure 5. GDP in EU New Member States: pre- and post-crisis comparison

Source: Balcerowicz et al. (2013).

Notes: Cumulative GDP growth vs. change in domestic credit to the private sector.

(see IMF Country Reports Nos. 04/217 and 06/391). Poland became a growth leader among the NMS only after the Lehman collapse, despite the fact that Polish propelling institutions were weaker than in many countries of the CEE region, particularly the Baltic States (Balcerowicz – Rzońca 2015).[2] Since the pre-crisis boom in Poland had been short-lived, it did not end up in a severe recession when it bust, contrary to what happened elsewhere in the region. Actually, there was no recession at all in Poland.

It appears that central banks in advanced economies largely neglected risks for sustainable economic growth stemming from excessive credit dynamics, while overestimating its role in post-crisis recovery. On the contrary, many researchers indicate that credit growth is not a precondition of economic rebound and that credit-less recoveries are rather natural after the bursting of a speculative bubble driven by excessive credit expansion (for more on this, see e.g. Bech et al. 2012; Takáts – Upper 2013). Sweden (and the Nordic countries in general), is just an example of such a recovery after the crisis in the early 1990s *(Figure 6)*. A post-crisis economy requires, above all, restructuring to recover. A non-restructured banking sector may postpone deleveraging *via* forbearance, but forbearance lending is likely to crowd viable enterprises out of credit (e.g. Caballero et al. 2008; Peek – Rosengren 2005).

5. MONETARY POLICY COMMUNICATION

The central bank needs to be trusted in order to effectively communicate with economic agents and, ultimately, to stabilise their expectations, and thereby – the economy. Using models, economists conventionally assume that central banks are trusted and thus their policy announcements are credible. However, this is only an assumption, whose correctness ought to be verified and may change.

It seems to reflect reality in Poland. Since the successful disinflation at the beginning of the transition, the NBP has been continuously among the most trusted Polish institutions *(Figure 7)*. On the other hand, there is growing evidence that a crisis may severely hit trust in the central bank, even one having a seemingly well established reputation (*Figure 8* illustrates this claim). Thus, the high trust in the NBP could have easily disappeared if the effects of the global financial crisis had turned out not to be as mild as they actually were in Poland. The detrimental ef-

[2] GDP growth rate in the Baltic states was higher than in Poland in the years 2011–2013. However, it had been preceded by a dramatic (14–18%) drop in GDP of these countries in 2010. Additionally, the potential GDP of the Baltic states was lower than in Poland throughout this period.

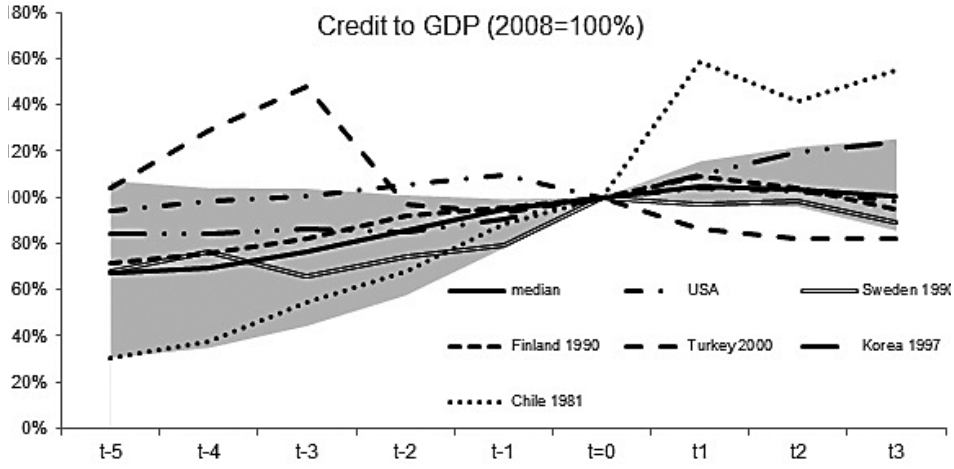

Figure 6. Pre- and post-crisis growth in credit

Source: Balcerowicz et al. (2013).

Notes: Credit to GDP ratio in the EU, the US and some selected countries during 5 selected episodes of the banking crisis.

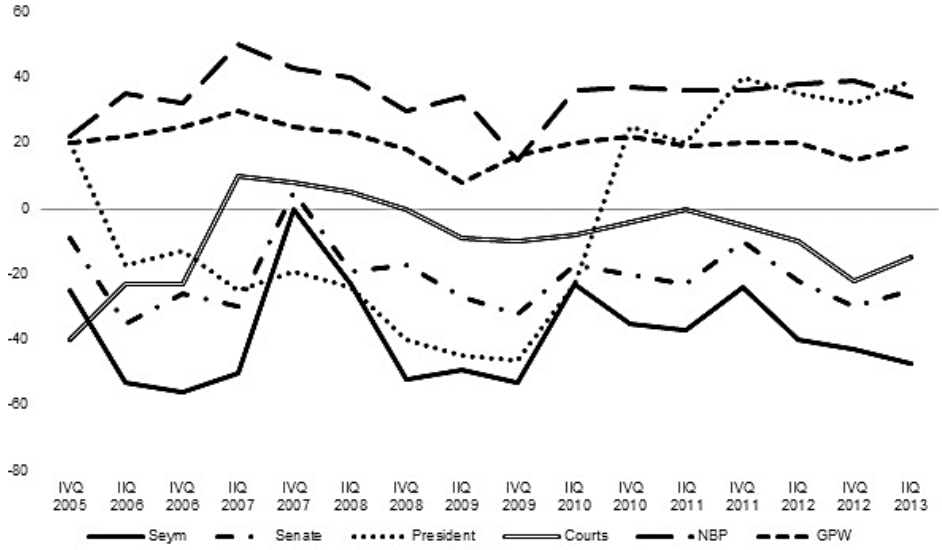

Figure 7. Net trust (2005–2012)

Source: Centrum Badania Opinii Społecznej (Centre for Public Opinion Research).

Notes: Trust in Polish Parliament, President, Courts, NBP and Warsaw Stock Exchange (GPW).

fects of crisis occurrence on trust in the central bank provide yet another support for the "leaning against the wind" approach to pursuing monetary policy because without trust, it is difficult for the central bank to "mop-up after".

Furthermore, a decrease in trust in the central bank may not be caused only by its failure to prevent a crisis outburst. It may also be driven by economic agents' conviction that the cure applied by the central bank is inappropriate. Still worse, such a conviction may arise even if the central bank's response to the crisis occurrence is entirely standard and involves aggressive interest rate cuts. Albinowski et al. (2014), who study links between trust in the ECB and its interest rate policy, find that when households have pessimistic expectations, aggressive cuts in interest rates are followed by a decline in trust in the ECB *(Table 4)*. This puzzling result supports the "lack-of-confidence" hypothesis developed by Schmitt-Grohé and Uribe (2010 and 2012), and calls into question the conventional "fundamental-shock" hypothesis which, if correct, would imply a positive effect of aggressive cuts on trust in the ECB. Thus, the scope for the "mop-up after" approach to conducting monetary policy may be even narrower than one would assume based on the dependence of trust in the central bank on successful crisis prevention.

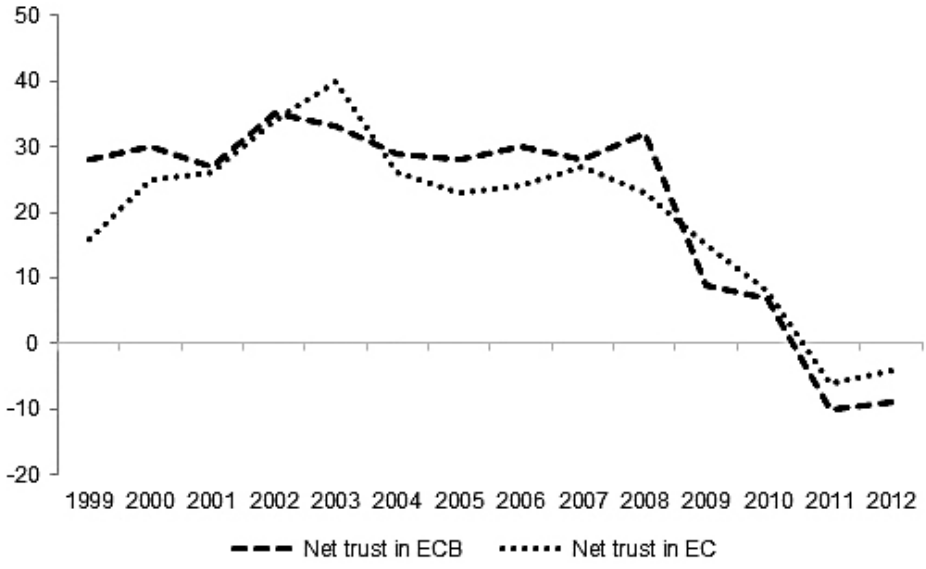

Figure 8. Net trust in the European Central Bank and the European Commission (an unweighted average for the euro zone 12)

Source: Eurobarameter.

Table 4. Monetary policy communication

Variable	Model 3				
	OLS	DK	RE	FE	DK FE
EC net trust	0.591***	0.591***	0.781***	0.795***	0.795***
	(0.037)	(0.059)	(0.039)	(0.04)	(0.065)
Consumer expectations	0.244***	0.244***	0.139***	0.132***	0.132***
	(0.042)	(0.061)	(0.039)	(0.04)	(0.019)
Unemployment	–1.858***	–1.858***	–0.362*	–0.263	–0.263
	(0.182)	(0.288)	(0.212)	(0.217)	(0.352)
Inflation	–1.662***	–1.662***	–0.815**	–0.744**	–0.744
	(0.503)	(0.336)	(0.37)	(0.371)	(0.465)
Crisis	–5.757***	–5.757**	–4.666***	–4.567***	–4.567**
	(1.765)	(2.458)	(1.224)	(1.225)	(2.113)
ECB rate	–0.27	–0.27	0.605	0.652	0.652
	(0.693)	(0.86)	(0.482)	(0.483)	(0.803)
ECB rate (shock)	3.239***	3.239***	1.923***	1.836***	1.836***
	(0.623)	(0.205)	(0.48)	(0.482)	(0.458)
Cons	33.10***	33.10***	11.86***	10.33***	10.334
	(2.933)	(5.865)	(4.351)	(3.178)	(6.54)
Total R^2	0.752	0.752	0.672	0.661	NA
Within R^2	NA	NA	0.823	0.823	0.823
Between R^2	NA	NA	0.442	0.414	NA
Pesarans test (*p* value)	NA	NA	0.000	0.000	NA
Observations	340				

Source: Albinowski et al. (2014).

Note: The dependent variable is the net trust in the ECB. The first row of the table lists estimators used in the subsequent regressions. Standard errors are reported in parentheses. Asterisks denote the estimates' significance at the 1 (***), 5 (**) and 10 (*) % levels.

This last observation leads us to challenges ahead of central banks. We focus on challenges to the research agenda in central banks, rather than on challenges ahead of pursuing monetary policy. With regard to the latter issue, we would not be original by claiming that the largest current challenge is to exit from unconventional measures in the right order and in the right time. Taking into account that concerns

of a too early exit are much more frequent than concerns of a delayed exit, we are afraid that the exit will be neither timely nor ordered. However, this threat makes the research agenda we outline in the next section even more necessary.

6. CHALLENGES

The crucial process in a post-crisis economy is restructuring. Obviously, the bankruptcy rate is not tantamount to the intensity of restructuring. Yet, it is worth noting that it was increasing in both the eurozone and in the United States only until late 2009 and has since then been in a decline. In spite of the severity of the crisis, it fell below the multi-year average. Its fall in both economies has been followed by a deceleration in productivity growth. Have the fall in the bankruptcy rate and the deceleration of productivity growth been linked to unconventional measures in monetary policy? Based on the current analytical framework, one cannot answer this question. Our guess is that they could have been. Even in the case of Poland, where interest rates have, until recently, remained clearly above zero, there exists indirect evidence suggesting that their exceptionally low level could contribute to the occurrence of zombie firms. Although between 2011 and 2014, the impaired loan ratio for enterprises did not increase (11.6% and 11.4%, respectively), the structure of overdue corporate loans changed remarkably. The share of loans 1–30 days past due in overdue corporate loans decreased from 37% in 2011 to 24% in 2014, while the same indicator for loans overdue for over a year increased from 36% to 49%. Simultaneously, the bankruptcy rate in Poland is low compared both to other countries and the multi-year average (cf., e.g., Coface 2014 and Creditreform 2012). It is also worth adding that the reallocation of production factors across sectors, which was of crucial importance for TFP growth in Poland until 2010, has contributed almost nil to that growth since then *(Figure 9)*. If the enhanced banks' tolerance for overdue loans and the fall in bankruptcy rate (or, more generally, slow production factors reallocation) were indeed linked to exceptionally low interest rates, then omitting these links in conducting monetary policy would have deleterious consequences: persistently slow productivity growth, limited central bank capacity to influence aggregate demand, and thus a greater vulnerability of the economy to various negative shocks (more on this, see Ciżkowicz – Rzońca 2014.)

Another under-researched problem, in spite of its policy relevance, is the persistence of uncertainty after the outburst of the global financial crisis (e.g. Haddow et al. 2013.) Uncertainty, like slow productivity growth, does not occur, or at least does not have to always occur unexpectedly. Central banks ought to learn more about the determinants of uncertainty as their changes strongly affect the banks' ability to stabilise aggregate demand and thereby the economy.

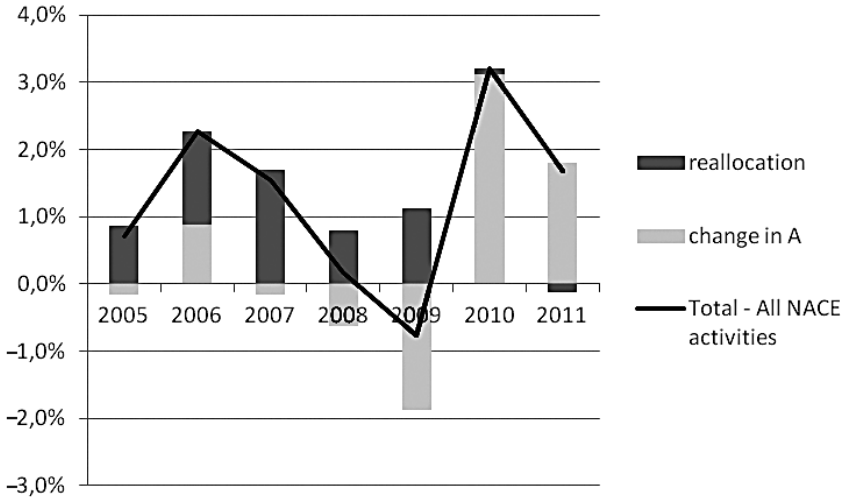

Figure 9. Contribution of production factors reallocation across sectors to TFP growth (2005–2011)

Source: Łaszek (2014).

7. CONCLUSIONS

The paper provides a general evaluation of inflation targeting (IT) in Poland, with some reference to challenges faced by major central banks.

– Even though the NBP had been advised by international financial institutions not to adopt IT, that monetary policy strategy has proven to be relatively successful in Poland. A bias towards the aggressive mitigation of inflationary risks seems to have contributed to that success.
– As the risk of the ZLB becoming a binding constraint is negligible in the case of Poland, the NBP does not have to search for a monetary policy strategy that would be better suited to cope with the ZLB. If price level targeting had been implemented in Poland instead of fully-fledged inflation targeting, policy response to actual shocks caused by the outburst of the global financial crisis would have deepened macroeconomic instability. In turn, even though the size of the revisions of nominal GDP was more limited in Poland than in the euro-zone or the United States, the revisions have been considerable (and frequent) enough to disqualify that variable from being the nominal anchor.

– The benefits from the interruption of the post-EU accession boom in Poland through monetary policy tightening provide some support for a "leaning against the wind" approach to conducting monetary policy.
– The adverse impact of crisis occurrence on trust in the central bank provides yet another support for "leaning against the wind", as without trust it is difficult for the central bank to "mop-up after". That support is strengthened by some evidence pointing to the negative effects of aggressive interest rate cuts on trust in the central bank.
– The causes of slow post-crisis restructuring and persistent uncertainty constitute another under-researched problem of great policy relevance after the global financial crisis.

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